

WHAT IS CLAIMED IS:

1. An isolated genomic polynucleotide, said polynucleotide obtainable from human
5 chromosome 12q13-q15 region having a nucleotide sequence at least 95% identical to a sequence
selected from the group consisting of:
 - (a) a genomic polynucleotide encoding a polypeptide selected from the group consisting of
human carboxypeptidase M depicted in SEQ ID NO:1 or human mouse double minute 2 homolog
depicted in SEQ ID NO:2, or variants of SEQ ID NOS:1 or 2,
 - 10 (b) a genomic polynucleotide selected from the group consisting of SEQ ID NO:3
which encodes human carboxypeptidase M depicted in SEQ ID NO:1 and SEQ ID NO:4 which
encodes human mouse double minute 2 homolog depicted in SEQ ID NO:2, or variants of SEQ ID
NOS: 3 or 4;
 - 15 (c) a polynucleotide which hybridizes to any one of the polynucleotides specified in (a)-(b)
 - (d) a polynucleotide that is a reverse complement of the polynucleotides specified in (a) – (c).
2. A nucleic acid construct comprising the polynucleotide of claim 1.
- 20 3. An expression vector comprising the polynucleotide of claim 1.
4. A recombinant host cell comprising the polynucleotide of claim 1.
5. A method for obtaining a polypeptide encoded by a polynucleotide obtainable from human
25 chromosome 12, said polypeptide selected from the group consisting of human carboxypeptidase
M and human mouse double minute 2 homolog comprising:
 - (a) culturing the recombinant host cell of claim 4 under conditions that provide for the
expression of said polypeptide and
 - (b) recovering said expressed polypeptide.
- 30 6. A method for preparing an antibody specific to a polypeptide selected from the group
consisting of human carboxypeptidase M and human mouse double minute 2 homolog comprising:
 - (a) obtaining a polypeptide according to the method of claim 5;
 - (b) optionally conjugating said polypeptide to a carrier protein;
 - 35 (c) immunizing a host animal with said polypeptide or polypeptide-carrier protein conjugate
of step (b) with an adjuvant and

(d) obtaining antibody from said immunized host animal.

7. An isolated nucleic acid molecule or reverse complement thereof comprising a sequence of nucleotides which specifically hybridizes to a non-coding region of SEQ ID NO:3 or 4, which non-coding region is selected from the group consisting of an intron, a splice junction, a 5'-non-coding region, an expression control sequence, a transcription factor binding region and a 3'-non-coding region.

8. A method of diagnosing a pathological condition or susceptibility to a pathological condition in a subject comprising:

(a) isolating genomic DNA from a subject;

(b) determining the presence or absence of a variant in said genomic DNA using the polynucleotide of claim 7

(c) diagnosing a pathological condition or a susceptibility to a pathological condition based on the presence or absence of said variant.

9. A composition comprising the polynucleotide of claim 1 and a carrier.

10. A composition comprising the polynucleotide of claim 7 and a carrier.

11. A method for modulating levels of human carboxypeptidase M or human mouse double minute 2 homolog in a subject in need thereof comprising administering to said subject an amount of the polynucleotide of claim 1 effective to modulate said human carboxypeptidase M or human mouse double minute 2 homolog levels.

12. A method for modulating levels of human carboxypeptidase M or human mouse double minute 2 homolog in a subject in need thereof comprising administering to said subject an amount of the polynucleotide of claim 7 effective to modulate said human carboxypeptidase M or human mouse double minute 2 homolog levels.

13. A method for preventing, treating or ameliorating a medical condition, comprising administering to a subject an amount of the polynucleotide of claim 1 effective to prevent, treat or ameliorate said medical condition.

14. A method for preventing, treating or ameliorating a medical condition, comprising

administering to a subject an amount of the polynucleotide of claim 7 effective to prevent, treat or ameliorate said medical condition.

5 15. A kit comprising the polynucleotide of claim 7.

16.The kit according to claim 15, in which the polynucleotide is labeled with a detectable substance.

10 17.A solid support comprising the nucleic acid of claim 7.

18.The solid support of claim 17 wherein said support is a microarray.

15 19.The solid support of claim 18, wherein said microarray further comprises a plurality of nucleic acids hybridizing to a non-coding region of SEQ ID NO3 or 4.

20. The solid support of claim 18, wherein said microarray further comprises a nucleic acid encoding human carboxypeptidase M and/or human mouse double minute 2 homolog or a portion thereof.

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21. A polynucleotide comprising:

(a) a genomic double stranded polynucleotide set forth in SEQ ID NO:3 encoding human carboxypeptidase M set forth in SEQ ID NO:1 and the polynucleotide set forth in SEQ ID NO:4 encoding human mouse double minute 2 homolog set forth in SEQ ID NO:2;

25 (b) a polynucleotide that hybridizes to one strand of the polynucleotide of (a) and

(c) a reverse complement of (a) and (b).

22. A method of identifying variants of SEQ ID NO:3 and SEQ ID NO:4 comprising

(a) isolating genomic DNA from a subject and

30 (b) determining the presence or absence of a variant in said genomic DNA using the polynucleotide of claim 7.

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